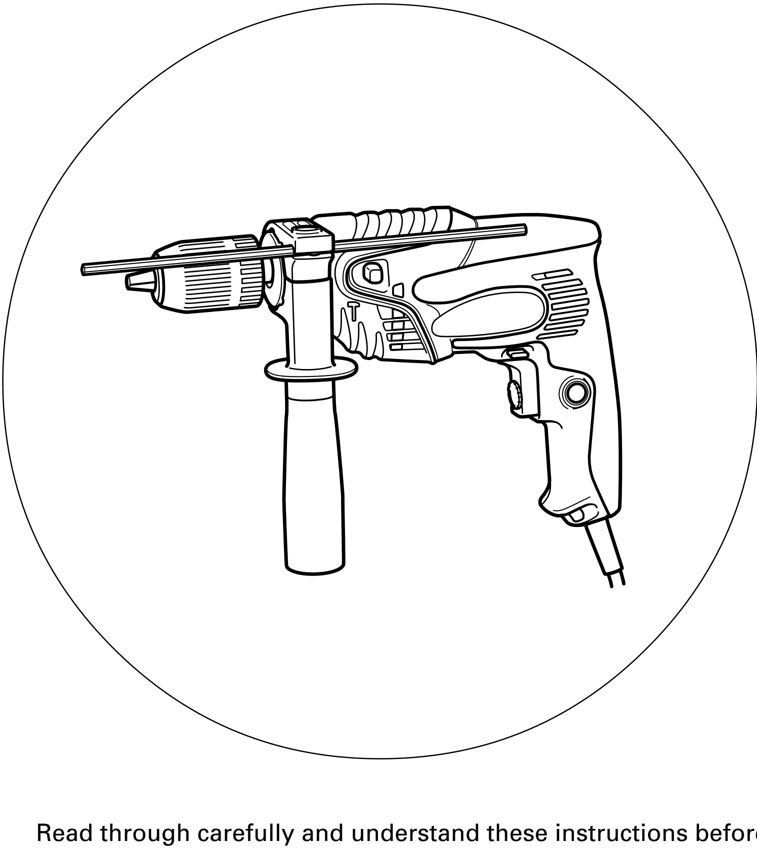
HITACHI

Impact Drill
日立牌手提震動電鑽

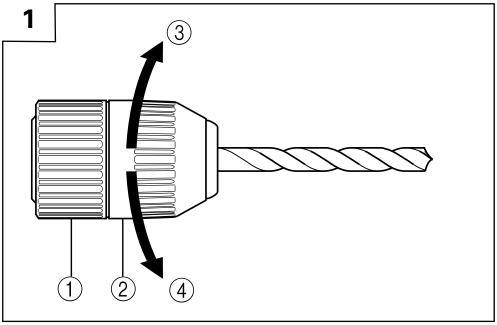
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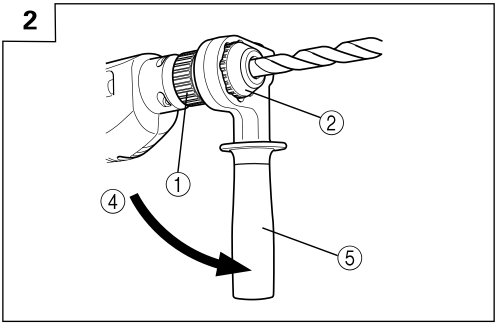
Handling instructions
使用說明書

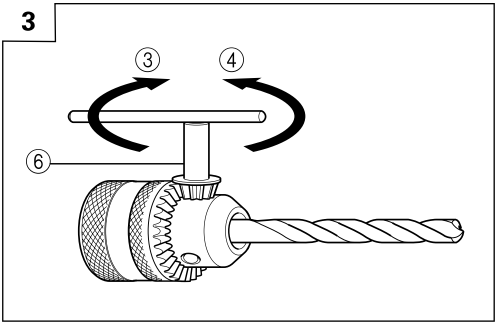


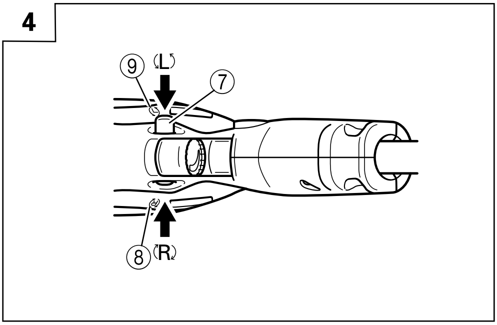
Read through carefully and understand these instructions before use.
使用前務請詳加閱讀。

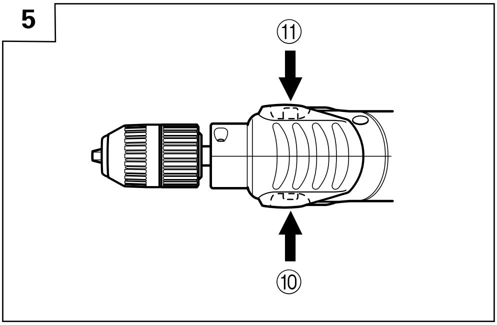
Hitachi Koki

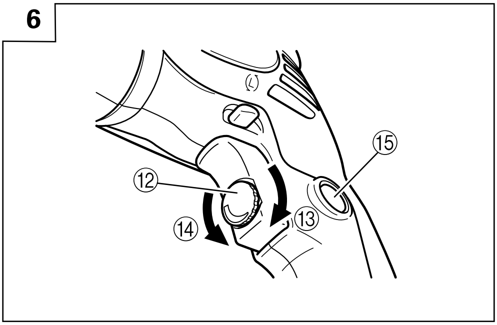

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①	Ring	套環
②	Sleeve	套管
③	Tighten	擰緊
④	Loosen	擰鬆
⑤	Side handle	邊柄
⑥	Chuck wrench	卡盤扳手
⑦	Push button	按鈕
⑧	(R) mark	(R) 標記
⑨	(L) mark	(L) 標記
⑩	Impact	衝擊
⑪	Rotation	旋鑽
⑫	Speed control dial	速度控制撥盤
⑬	High speed	高轉速
⑭	Low speed	低轉速
⑮	Stopper	擋塊

GENERAL OPERATIONAL PRECAUTIONS

WARNING! When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury, including the following.

Read all these instructions before operating this product and save these instructions.

For safe operations:

1. Keep work area clean. Cluttered areas and benches invite injuries.
2. Consider work area environment. Do not expose power tools to rain. Do not use power tools in damp or wet locations. Keep work area well lit. Do not use power tools where there is risk to cause fire or explosion.
3. Guard against electric shock. Avoid body contact with earthed or grounded surfaces. (e.g. pipes, radiators, ranges, refrigerators).
4. Keep children and infirm persons away. Do not let visitors touch the tool or extension cord. All visitors should be kept away from work area.
5. Store idle tools. When not in use, tools should be stored in a dry, high or locked up place, out of reach of children and infirm persons.
6. Do not force the tool. It will do the job better and safer at the rate for which it was intended.
7. Use the right tool. Do not force small tools or attachments to do the job of a heavy duty tool. Do not use tools for purposes not intended; for example, do not use circular saw to cut tree limbs or logs.
8. Dress properly. Do not wear loose clothing or jewelry, they can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protecting hair covering to contain long hair.
9. Use eye protection. Also use face or dust mask if the cutting operation is dusty.
10. Connect dust extraction equipment.
    If devices are provided for the connection of dust extraction and collection facilities ensure these are connected and properly used.
11. Do not abuse the cord. Never carry the tool by the cord or yank it to disconnect it from the receptacle. Keep the cord away from heat, oil and sharp edges.
12. Secure work. Use clamps or a vise to hold the work. It is safer than using your hand and it frees both hands to operate tool.
13. Do not overreach. Keep proper footing and balance at all times.
14. Maintain tools with care. Keep cutting tools sharp and clean for better and safer performance. Follow instructions for lubrication and changing accessories. Inspect tool cords periodically and if damaged, have it repaired by authorized service center. Inspect extension cords periodically and replace, if damaged. Keep handles dry, clean, and free from oil and grease.
15. Disconnect tools. When not in use, before servicing, and when changing accessories such as blades, bits and cutters.
16. Remove adjusting keys and wrenches. Form the habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.
17. Avoid unintentional starting. Do not carry a plugged-in tool with a finger on the switch. Ensure switch is off when plugging in.
18. Use outdoor extension leads. When tool is used outdoors, use only extension cords intended for outdoor use.
19. Stay alert. Watch what you are doing. Use common sense. Do not operate tool when you are tired.
20. Check damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, free running of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated in this handling instructions. Have defective switches replaced by an authorized service center. Do not use the tool if the switch does not turn it on and off.
21. Warning
    The use of any accessory or attachment, other than those recommended in this handling instructions, may present a risk of personal injury.
22. Have your tool repaired by a qualified person.
    This electric tool is in accordance with the relevant safety requirements. Repairs should only be carried out by qualified persons using original spare parts. Otherwise this may result in considerable danger to the user.

SPECIFICATIONS

Voltage (by areas)*		(110V, 115V, 120V, 127V, 220V, 230V, 240V) ∿
Power input		550W*
No load speed		0–2900/min
Capacity	Steel	13 mm
	Concrete	16 mm
	Wood	25 mm
Weight (without cord)		1.6 kg

*Be sure to check the nameplate on product as it is subject to change by areas.

STANDARD ACCESSORIES

For entire area

(1) Side handle 1
(2) Depth stopper 1

For partial areas

(1) Chuck wrench 1
(For drill chuck with chuck wrench)
(2) Plastic case 1

Standard accessories are subject to change without notice.

APPLICATIONS

○ By combined actions of ROTATION and IMPACT: Boring holes in concrete, marble, granite, tile, and similar materials.
○ By ROTATIONAL action:
Boring holes in metal, wood and plastic.
Tightening wood screws.

PRIOR TO OPERATION

1. **Power source**
Ensure that the power source to be utilized conforms to the power requirements specified on the product nameplate.
2. **Power switch**
Ensure that the power switch is in the OFF position. If the plug is connected to a receptacle while the power switch is in the ON position, the power tool will start operating immediately, inviting serious accident.
3. **Extension cord**
When the work area is removed from the power source. Use an extension cord of sufficient thickness and rated capacity. The extension cord should be kept as short as practicable.
4. **Fixing the side handle**
Attach the side handle to the mounting part.
Rotate the side handle grip in a clockwise direction to secure it.
Set the side handle to a position that is suited to the operation and then securely tighten the side handle grip.
5. **Mounting and dismounting of the bit.**

For keyless chuck

(1) Mounting the bit
After inserting a driver bit, etc. into the keyless drill chuck, firmly grasp the ring and tighten the sleeve by turning it toward the right (in the clockwise direction as viewed from the front). (See **Fig. 1**)
○ If the sleeve becomes loose during operation, tighten it further. The tightening force becomes stronger when the sleeve is tightened.

(2) Dismounting the bit
Firmly grasp the ring and loosen the sleeve by turning it toward the left (in the counterclockwise direction as viewed from the front). (See **Fig. 1**)
NOTE
When the sleeve does not become loose any further, fix the side handle to the sleeve. Then, strike the grip of the side handle to the left in order to loosen the sleeve,while holding the ring by hand. (**Fig. 2**)
CAUTION
Do not fix the side handle to the ring of the keyless chuck because of a risk that doing so may damage the ring.

For Drill chuck with chuck wrench

Fit the drill bit into the chuck and use the chuck wrench to secure it, tightening the chuck by each of the three holes in turn. (**Fig. 3**)

6. **Selecting the appropriate drill bit**
○ When boring concrete or stone
Use the drill bits for concrete.
○ When boring metal or plastic
Use an ordinary metalworking drill bit.
○ When boring wood
Use an ordinary woodworking drill bit.
However, when drilling 6.5 mm or smaller holes, use a metalworking drill bit.
7. **Selecting the driver bit**
Screw heads or bits will be damaged unless a bit appropriate for the screw diameter is employed to drive in the screws.
8. **Check the rotational direction (Fig. 4)**
The bit rotates clockwise (viewed from the rear side) by pushing the R-side of the push button.
The L-side of the push button is pushed to turn the bit counterclockwise.
(The Ⓛ and Ⓡ marks are provided on the body.)
CAUTION
○ Never change the direction of bit rotation during operation.
Turn the power switch OFF before changing the direction of bit rotation; otherwise, the motor will burn.
○ Always use with clockwise rotation, when using it as an impact drill.

9. IMPACT to ROTATION changeover (Fig. 5)
The impact drill can be switched from IMPACT (impact plus rotation) to ROTATION (rotation only) by simply sliding the change lever. When boring concrete, stone, tile or similar board materials, slide the change lever right. The drill head impacts against the material while continuing to rotate.
When boring metal, wood or plastic, slide the change lever fully to the left. The drill simply rotates as an ordinary electric drill.
CAUTION
Do not use the impact drill in the IMPACT mode if the material can be bored by rotation only. Such action will not only reduce drill efficiency, but may also damage the drill tip.
When changing over, ensure the change lever is slid as far as it will go.

HOW TO USE

1. Pressure
Drilling will NOT be accelerated by placing heavy pressure on the drill. Such action will only result in a damaged drill bit, decreased drilling efficiency and/or shortened service life of the drill.

2. Using a large diameter drill bit
The larger the drill bit diameter, the larger the reactive force on your arm. Be careful not to lose control of the drill because of this reactive force. To maintain firm control, establish a good foothold, hold the drill tightly with both hands, and ensure that the drill is vertical to the material being drilled.

3. When drilling completely through the material
When the drill bit bores completely through the material, careless handling often results in a broken, drill bit or damage to the drill body itself due to the sudden movement of the drill. Always be alert and ready to release pushing force when drilling through the material.

4. Switch operation
○ When the trigger is depressed, the tool rotates. When the trigger is released, the tool stops.
○ The rotational speed of the drill can be controlled by varying the amount that the trigger switch is pulled. Speed is low when the trigger switch is pulled slightly and increases as the trigger switch is pulled more.
○ The desired rotation speed can be pre-selected with the speed control dial.
Turn the speed control dial clockwise for higher speed and counterclockwise for lower speed. (**Fig. 6**)
○ Pulling the trigger and pushing the stopper, it keeps the switched-on condition which is convenient for continuous running. When switching off, the stopper can be disconnected by pulling the trigger again.
CAUTION
Drill at a maximum rotation speed when drilling wooden materials.

5. When driving wood screws
(1) Selecting a suitable driver bit
Employ plus-head screws, if possible, since the driver bit easily slips off the heads of minus-head screws.
(2) Driving in wood screws
○ Prior to driving in wood screws, make holes suitable for them on the wooden board. Apply the bit to the screw head grooves and gently drive the screws into the holes.
○ After rotating the screwdriver at low speed for a while until a wood screw is partly driven into the wood, squeeze the trigger more strongly to obtain optimum driving force.
CAUTION
○ Exercise care in preparing a hole suitable for the wood screws taking the hardness of the wood into consideration.
Should the hole be excessively small or shallow, requiring much power to drive the screw into it, the thread of the wood screw may sometimes be damaged.
○ Do not drive machine screws.

MAINTENANCE AND INSPECTION

1. Inspection the drill bit
Continued use of a worn and/or damaged drill bit will result in reduced drilling efficiency and may seriously overload the drill motor. Inspect the drill bit often and replace it with a new bit as necessary.

2. Inspecting the mounting screws
Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loose, retighten them immediately. Failure to do so could result in serious hazard.

3. Maintenance of the motor
The motor unit winding is the very "heart" of the power tool. Exercise due care to ensure the winding does not become damaged and/or wet with oil or water.

4. Servicing
Consult an authorized Service Center in the event of power tool failure.

5. Service parts list
CAUTION:
Repair, modification and inspection of Hitachi Power Tools must be carried out by an Hitachi Authorized Service Center.
This Parts List will be helpful if presented with the tool to the Hitachi authorized Service Center when requesting repair or other maintenance.
In the operation and maintenance of power tools, the safety regulations and standards prescribed in each country must be observed.
MODIFICATION:
Hitachi Power Tools are constantly being improved and modified to incorporate the latest technological advancements.
Accordingly, some parts may be changed without prior notice.

NOTE
Due to HITACHI's continuing program of research and development, the specifications herein are subject to change without prior notice.

作業上的一般注意事項

警告！當使用電動工具時，爲了減少造成火災、電擊和人身傷害，必須時刻遵守基本注意事項，以及下述操作注意事項。

在操作本機之前，請通讀本說明書，並予以妥善保管。

安全操作注意事項：

1. 工作場所應打掃乾淨，清理妥當，雜亂無章將導致事故。
2. 確保妥適的作業環境。電動工具不可任其風吹雨打。不得在潮濕的地方作業。工作場所需保持充分的亮度。請勿在有可能造成火災或爆炸的地方使用電動工具。
3. 謹防觸電事故。應避免身體同大地或接地表面接觸（例如：管道、散熱器、爐灶、冰箱等）。
4. 不可讓孩童和体弱人士靠近工作場所。請勿讓訪客觸摸電動工具或延伸線纜。所有訪客必須與工作區保持安全距離。
5. 妥善存放不使用的工具。應將不使用的電動工具存放到乾燥及孩童和体弱人士伸手不及的高處，並加鎖保管。
6. 不得使勁用力推壓。電動工具需按設計條件才能有效而安全地工作，絕不可勉強。
7. 妥選使用工具。不可用小型工具或附件去幹重活。不可用於規定外的作業。舉例說，用圓鋸進行伐木打枝或原木鋸切作業。
8. 工作時衣服穿戴要合適。不要讓鬆散的衣角和寶石類捲入轉動部份。屋外作業時，最好手戴橡膠手套，腳穿防滑膠鞋。同時要戴上能夠罩籠長髮的工作帽。
9. 絕大多數的電動工具作業時，均需戴安全眼鏡。進行粉塵飛揚的切削作業時，需戴防塵面罩。
10. 連接除塵設備。
    如果提供連接除塵和集塵的設備，請確認是否已經連接好並且使用正常。
11. 不要拿電線提起電動工具，也不得拉扯電線從電源插座拆除插頭。電線需從熱源和油液隔開，並避免與銳利的邊緣接觸。
12. 作業以安全第一爲原則。工件要用夾具或台鉗卡緊。這樣做，比用手按壓更爲可靠，也能夠讓雙手專心操作。
13. 作業時腳步要站穩，身體姿勢要保持平衡。
14. 工具應維護妥善，經常保持鋒利、清潔才能充分發揮性能，落實作業安全的要求。應按規定加注潤滑脂、更換附件。線纜應定期檢查，如發現損傷應即委託專業性的服務單位加以修復。延伸電纜如有損傷應予更換。手柄要保持乾燥，並防止沾附油脂類。
15. 不使用時，維修前以及更換附件（如：刀具、鑽頭、鋸具等）之前，都必須拆卸電源插頭才行。
16. 開動前務必把調整用鍵和扳手類拆除下來。這一點與安全有關。應養成習慣，嚴格遵守。
17. 謹防誤開動。插頭一插上電源插座，指頭就不可隨便接觸電源開關。插接電源之前，應先確認開關是否切斷。
18. 屋外延伸線纜的使用。屋外作業時，必須使用專用的延伸線纜。
19. 保持高度警覺，充分掌握情況，以正常的判斷力從事作業。疲憊時切不可開動電動工具。
20. 檢查損壞部件。在繼續使用電動工具之前，應詳細檢查各部零件以及防護裝置有無損壞，以便決定能否正常工作，能否發揮正常效能。檢查轉動部份的對準、空轉、各零件有無異常，安裝是否妥善以及其它足以給工作帶來不良影響的情況。
    如防護以及其它零件損傷了。除非本說明書中已有記載否則應即委託服務中心進行修理或更換。
    開關一發現缺陷，應即委託服務中心加以更換。
    如開關不能正常地接通或切斷，絕不可使用該電動工具。
21. 警告
    爲了防止人身傷害，不得使用電動工具去進行規定外的作業。並祇能使用本說明書目錄中所指定的附件。
22. 本工具必須委託有資格的維修人員進行維修。
    本電動工具滿足相關的安全要求。維修必須由專業人員使用純正配件來進行。否則有可能會給用戶造成人身損害。

規　格

電壓（按地區）*		(110V，115V，120V，127V，220V，230V，240V)∿
輸入功率		550W*（台灣 500W）
額定輸出功率		270W
無負荷速度		0～2900 轉／分
能力	金　屬	13 mm
	混凝土	16 mm
	木　材	25 mm
重量（不含線纜）		1.6 kg

* 當須改變地區時應檢查產品上的銘牌。

標準附件

用於全地區

(1) 側柄 1

(2) 停止器 1

用於部分地區

(1) 夾持器扳手 1
　（用於帶夾持器扳手的鑽頭夾持器）

(2) 塑料套 1

標準附件可能不預先通告而更改。

用　途

○ 旋鑽加衝擊：混凝土、大理石、花崗岩、瓷鑽以及其它類似材料的鑽孔。

○ 專用旋轉方法的用途：
金屬、木材和塑料的鑽孔。
木螺絲的擰緊。

作業之前

1. **電源**
確認所使用的電源與工具銘牌上標示的規格是否相符。

2. **電源開關**
確認電源開關是否切斷。若電源開關接通，則插頭插入電源插座時電動工具將出其不意地立刻轉動，從而招致嚴重事故。

3. **延伸線纜**
若作業場所移到離開電源的地點，應使用容量足夠、鎧裝合適的延伸線纜，並且要盡可能地短些。

4. **側柄的安裝**
把側柄安裝到底座部。
將側柄夾順時針方向固定起來。同時配合工作時的位置、把它裝好之後，充分地把側柄夾擰緊。

5. **安裝和拆卸鑽頭**

無鍵夾持器

(1) 安裝鑽頭
將螺絲刀頭等插入無鍵鑽頭夾持器後，抓緊環並將其向右側（從前面看是朝順時針方向）旋轉以擰緊套管。（圖 1）

○ 如套管在作業中鬆弛，請將其進一步擰緊。套筒被擰緊時，其擰緊力變得更強。

(2) 拆卸鑽頭
抓緊環並將其向左側（從前面看是朝逆時針方向）旋轉以擰鬆套管。（圖 1）

註
當無法擰鬆套管時，請將側柄裝在套筒上，然後用手抓住環，將側柄的把手撞擊至左側以便擰鬆套筒。（圖 2）

注意
請勿將側柄裝在無鍵夾持器的環上，因爲這樣可能會損傷環。

帶夾持器扳手的鑽頭夾持器

將鑽頭套入夾持器，用夾持器扳手加以固定。具體上可將夾持器扳手插入夾持器上三個孔口，逐一緊固。（圖 3）

6. **選擇合適的鑽頭**

○ 混凝土或石材：使用混凝土用鑽頭。

○ 金屬或塑料：使用通常的金屬用鑽頭。

○ 木材的鑽孔：使用通常的木工用鑽頭。
但鑽開 6.5mm 或更小的孔口時，宜使用金屬用鑽頭。

7. **螺絲刀頭的選擇**
除非使用適合於螺絲直徑的鑽頭來旋入螺絲，否則會損壞螺絲刀頭或鑽頭。

8. **確認鑽頭旋轉方向（圖 4）**
按下按鍵的 R（右）側可使鑽頭沿順時針方向（前視）旋轉。按下按鍵的 L（左）側可使鑽頭沿逆時針方向旋轉。
（機身上有 (L) 和 (R) 標記。）

> **注意**
> ○ 操作中請勿改變鑽頭旋轉方向。
> 改變鑽頭旋轉方向之前，應先關掉開關，否則馬達會燒壞。
> ○ 作爲震動電鑽使用時，一定要使用順時針方向。

9. **衝擊與旋轉的切換（圖 5）**
只要滑動切換手柄，震動電鑽即可從衝擊（衝擊加上旋轉）切換到旋轉（只旋轉）。對混凝土、石頭、瓷磚或類似板材進行鑽孔時，請將切換手柄往右推動。在繼續旋轉時，鑽頭會給材料以衝擊。
對金屬、木材或塑膠進行鑽孔時，將切換手柄往左推到盡頭。震動電鑽就像普通電鑽一樣只旋轉而無衝擊力。

> **注意**
> 如果材料只能用旋轉方法鑽孔時，請勿在衝擊模態下使用震動電鑽。這種動作不僅會降低鑽孔效率，而且也會損壞鑽尖。
> 切換時，一定要把切換手柄移到底。

使 用 方 法

1. **壓力**
鑽孔作業時，絕不可使勁推壓鑽頭，以加快作業速度。這樣做，只會使鑽頭受損，降低效率，從而縮短鑽頭的使用壽命。

2. **使用大口徑鑽頭**
鑽頭的口徑越大，手上受到的反力也越大，因而必須注意會因反力過大而失去對鑽頭的控制。爲了得到良好的控制，腳步要站穩，並用雙手牢靠地握住電鑽。同時，鑽頭與鑽面要保持垂直。

3. **進行穿孔作業時**
穿孔作業時，常因操作不慎，使電鑽突然移動而損壞鑽頭或電鑽主體。因此，必需提高警覺，準備隨時放鬆推力。

4. **開關操作**
○ 按下起動器時，電鑽旋轉；鬆開起動器時，電鑽停止。
○ 改變拉起動器開關的程度可以控制電鑽的轉速。
輕拉起動器開關轉速較慢，進一步拉起動器開關則轉速變快。
○ 可以用速度控制撥盤預選所需的旋轉速度。
順時針轉動速度控制撥盤提高速度，逆時針轉動降低速度。（圖 6）
○ 拉起動器並推制動器，保持開關合上狀態，便於連續運轉。當開關斷開時，再次拉起動器便可釋放制動器。

> **注意**
> 在木材上開孔時，請用全速度開孔。

5. **旋入木螺絲時**
(1) 選擇適當的螺絲刀頭
如果可能的話，要使用十字槽頭螺絲，因爲螺絲刀頭容易從一字槽頭螺絲滑脫。
(2) 旋入木螺絲
○ 旋入木螺絲之前，先在木板上打出適合的孔，把鑽頭放在螺絲頭槽裡，將螺絲輕輕旋入孔內。
○ 使螺絲刀以低速旋轉一會兒，直到木螺絲有一部份旋入木材裡，然後再多用點力扳緊扳機，以達到最佳的驅動力。

> **注意**
> ○ 考慮到木材的硬度，小心備製適合於木螺絲的孔。如果備製的孔太小或太淺，要多用點力把螺絲旋入，但要注意，木螺絲的螺紋有時會損壞。
> ○ 請勿用於旋入機器螺絲。

維 護 和 檢 查

1. **檢查鑽頭**
繼續使用磨損或受傷的鑽頭，不僅使工作效率大爲降低，同時還會導致電動機過載。因此，鑽頭必需時常檢查，並根據情況需要加以更換。

2. **檢查安裝螺釘**

要經常檢查安裝螺釘是否緊固妥善。若發現螺釘鬆了，應立即重新扭緊，否則會導致嚴重的事故。

3. **電動機的維護**

電動機繞線是電動工具的心臟部。應仔細檢查有無損傷，是否被油液或水沾濕。

4. **維修**

電動工具起故障時，請洽經授權的維修代理店。

5. **維修部件目錄**

注意:

日立電動工具的修理、維護和檢查必須由日立所認可的維修中心進行。

當尋求修理或其他維護時，將本部件目錄與工具一起提交給日立所認可的維修中心會對您有所幫助。

在操作和維護電動工具中，必須遵守各國的安全規則和標准規定。

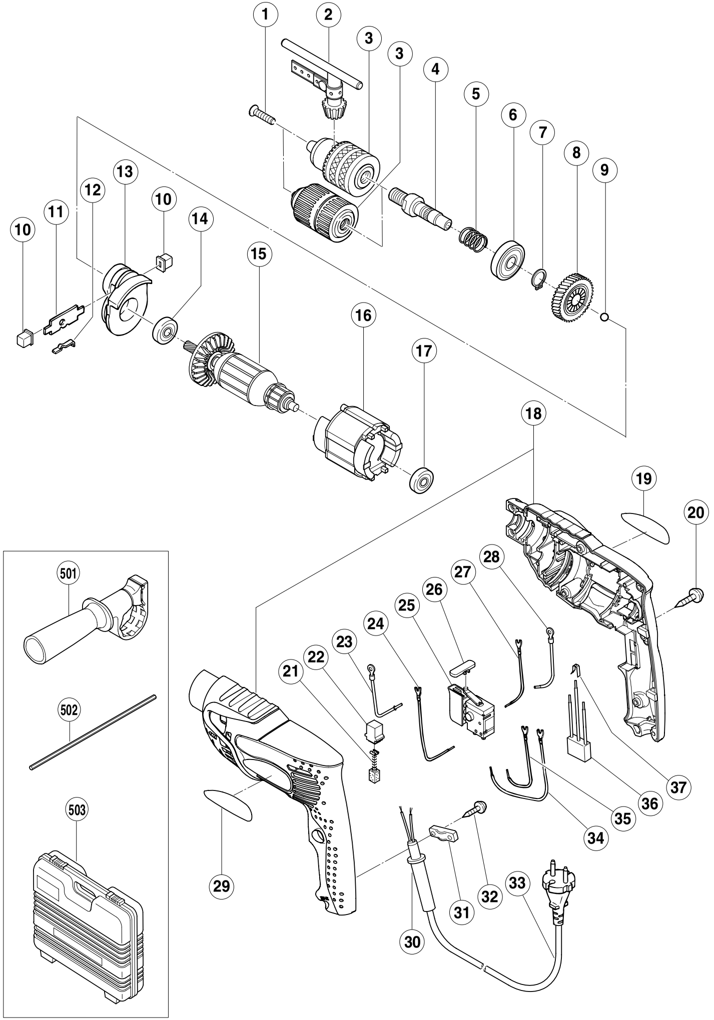
改進：

日立電動工具隨時都在進行改進以適應最新的技術進步。

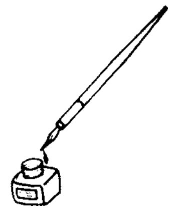
因此，有些部件可能未預先通知而進行改進。

註：

爲求改進，本手冊所載規格可能不預先通告而徑予更改。



Item No.	Part Name
1	Flat Hd. Screw (A) (Left Hand) M6 × 25
2	Chuck Wrench For 13VLB-D, 13VLR-D
3	Drill Chuck 13VLRB-D
3	Drill Chuck 13VLRC-N (W/O Chuck Wrench)
4	Spindle
5	Spring
6	Ball Bearing (6201VVCMPS2S)
7	Retaining Ring For D12 Shaft
8	Gear
9	Steel Ball D4.76
10	Change Knob
11	Change Plate
12	Spring (A)
13	Holder
14	Ball Bearing (608VVMC2EPS2L)
15	Armature
16	Stator
17	Ball Bearing (326VVMC2ERPS2S)
18	Housing (A), (B) Set
19	Nameplate
20	Tapping Screw (W/Flange) D4 × 20
21	Carbon Brush
22	Brush Holder
23	Choke Coil
24	Internal Wire (D)
25	Switch
26	Push Button
27	Internal Wire (C)
28	Choke Coil
29	HITACHI Label
30	Cord Armor
31	Cord Clip
32	Tapping Screw (W/Flange) D4 × 16
33	Cord
34	Internal Wire (B)
35	Internal Wire (A)
36	Noise Suppressor
37	Earth Terminal
501	Side Handle
502	Depth Gauge
503	Case



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